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Since the early 1900's, American educators have emphasized that letter sounds instead of letter names should be taught to beginning readers (Venezky, 1976). They have also stressed that blending of sounds should be done in order to minimize memory load. Consequently, the practice of emphasizing phonics application and de-emphasizing phonics terminology is, in theory, the basis for many present-day teaching strategies. However, a question arises when one considers the actual material being taught to children. Has the critical emphasis been on the knowledge of phonics usage rather than the memorization of terms?

Research by Tovey (1980), Downing (1970), and Reid (1966) provides the conclusion that children do not readily handle the abstract technical terms used by teachers in talking about written or spoken language. Although a child may possess the skills required to deal with the concept of the term, the child may have difficulty in the clarification of the term.

Many current reading series still emphasize the use of labels in learning practice. Beck (1979) has stated that no logical or empirical evidence can be found to link the knowledge of a label such as short or long vowel with learning the correct sound.

Therefore, the purposes of the present study are: 1) to investigate whether or not children can use phonics as a tool in reading without knowing abstract terms; 2) to compare high and low level readers on their abilities to define phonics terms; 3) to compare high and low level readers on their abilities to apply phonics terms; and 4) to determine the relationship between the determination and application of phonics terms.

METHOD

The subjects in the study were 40 fourth-grade students chosen from a population of 152 students attending an elementary school near a large metropolitan area in the Southeast. Twenty students were randomly selected from fourth graders scoring at or above fourth year, fifth month (4.5) on the 3rd grade California Achievement Test, Form C, Level 13, and were designated as high level readers. Twenty students were randomly selected from fourth graders scoring at or below third year, fifth month (3.5) on the same California Achievement Test and were designated as low level readers.

Two instruments developed by Tovey (1980) were used to obtain data from the subjects. The first instrument, the Phonics Definition Instrument, was used to determine whether the subjects could correctly define selected phonics terms. Each was asked if he or she had ever heard of a particular phonics term. For example, the child might have been asked, "Have you ever heard of a vowel?" If the response was affirmative, the child was asked the meaning of the term, "Tell me what a vowel is." The oral response provided by the students were coded by the researchers on a data sheet. A definition was considered acceptable if minimal understanding of the term was express and this understanding was coded with a plus. A possible score of 18 correct responses could be obtained on the instrument.

A second instrument used in the study was the Phonics Application Instrument. Three items which tested knowledge of vowels, short vowels, and inflectional endings were added to the Tovey Application test since the original test measured only 15 of the 18 terms that were to be defined by the subjects. During the administration of the second instrument, each subject read nonsense words and completed items concerning phonics skills. All instructions were read aloud to the subjects. Responses were recorded by the researcher.

The test administration for each subject took approximately 15 minutes. During that time the items on the Phonics Definition Instrument were defined and the Phonics Application Instrument was administered. A tape recording was made of every testing session. The tapes were used to insure scoring accuracy and establish interrater reliability.

STATISTICAL ANALYSIS

Analysis of the data was computed in four areas. First, differences between the mean scores of all subjects on the instrument measuring the ability to define phonics terms and the instrument measuring the ability to apply phonics terms were examined by a correlated t-test. Second, an independent t-test was used to examine the differences between high level and low level readers' scores on the instrument measuring the ability to define phonics terms. Third, the differences between high and low level readers' scores on the instrument measuring phonics application were examined by an independent t-test. Finally, the relationship between students' knowledge of phonics terms and their ability to apply phonics terms was examined by the Pearson product-moment correlation.

RESULTS AND DISCUSSION

Children in the present study applied more phonics terms than they defined. The t-test applied to the mean scores of all subjects on the Phonics Definition Instrument and the Phonics Application Instrument revealed a significant difference.

Table 1
Difference Between Means on the Phonics Definition Instrument and Phonics Application Instrument

Variable	Range	Mean	SD	t
Definition instrument	2 - 14	8	2.8	*10.4
Application instrument	6 - 17	12.8	2.5	

df = 39; *p < .001

Table 2
Difference Between Means on the Phonics Definition Instrument for High and Low Level Readers

Variable	Range	Mean	SD	t
High Level Readers	5 - 14	9.5	2.6	*3.63
Low Level Readers	2 - 11	6.6	2.2	

df = 38; *p < .001

Table 3
Difference Between Means on the Phonics Application Instrument for High Level and Low Level Readers

Variable	Range	Mean	SD	t
High level readers	10 - 17	14	1.4	*3.17
Low level readers	6 - 16	11.7	2.8	

df = 38; *p < .01

By way of elaboration, a few examples of contrast and comparison might be appropriate. The term consonant digraph, for instance, was not successfuly defined by any child, yet 39 of the 40 subjects successfully pronounced words containing consonant digraphs. Furthermore, the term consonant blend was correctly defined by only 13 students, yet was applied correctly by 39 students. These findings support the research of Tovey (1980), who found that children could use sound/symbol relationships even when they could not define the terms involved. Also, children were able to learn phonics relationships without first learning phonics terms.

An explanation for the results above may be attributed to the reading instruction given to the students in classroom lessons. Teachers are presented with terms that are never taught to the students. The students are expected to master phonics skills even though the terms have not been presented.

The greater success of high level readers in defining phonics terms may be directly related to the level of reading instruction. A statistically significant t value was found between the mean scores of high level and low level readers on the Phonics Definition Instrument. The high level readers used as students had been exposed to terms like possessive, prefix, and suffix in the fourth-grade reading instruction. The students in the low level reading group had not received similar instruction. Consequently, the terms were familiar only to the high level readers. For example, 15 students in the high level group successfully defined the terms prefix and suffix, while only four students from the low level group correctly defined prefix and only three students defined suffix.

It is interesting to note that when the number of acceptable definitions familiar to both groups is compared, the differences lessen and, in some cases, reverse. The terms short vowel and final e rule were successfully defined by the same number of students in each group. More low level readers than high level readers successfully defined the term vowel and the term short vowel.

The difference in mean scores of high and low level readers on the Phonics Application Instrument was statistically significant. An explanation for this significance can be found in the research by Allington, who found the successful readers spend up to 95% of their formal reading instruction time practicing activities involving silent reading comprehension, oral reading with fluency, and oral reading with accuracy and self-correction. In other words, when students are exposed to large amounts of reading material, the conversion of isolated phonics skills into near-automatic responses is possible. High level readers see and hear phonics skills used correctly during almost all of their reading instruction time.

Conversely, Allington continues, low level readers spend only 5% of their time in formal reading instruction performing silent and oral reading activities. Generally, low level readers are instructed in tasks and drills which stress word recognition, word analysis, and visual discrimination. Obviously, low level readers have very little exposure to actual reading. They are often unable to see words as whole units or how words appear in sentences. They also experience difficulty in making the transition from studying the phonics skills in isolated units to the successful application of the skills in actual reading.

The finding that high level readers are able to apply phonics terms more successfully than low level readers tempts one to conclude that a student's ability to apply phonics terms correctly causes the student to be a high level reader. Weaver and Skonkoff (1979) feel that this relationship could be caused by other factors.

High level reading and the ability to apply phonics skills may be the result of cognitive ability, combined with a home environment where the importance of reading and other language skills is emphasized. If this environmental factor is valid, high level readers have the additional advantage of stimulation which can strengthen their reading abilities both outside and inside the school.

The results of the study confirm the relationship of high knowledge of phonics terms to the ability of successfully applying phonics terms and vice versa. A correlation of .44 was obtained between scores of all subjects on the instruments measuring phonics term definitions and phonics application ($df = 38$; $p < .01$). The correlation between phonics term knowledge and phonics application supports the research of Weaver and Skonkoff (1979). Although the teaching of phonics terms does not necessarily cause children to become good readers, phonics terms are useful labels in children's reading instruction. Awareness of phonics terms facilitates communication between teacher and the students during reading instruction. Students who understand phonics terms are more likely to receive and understand instruction in the area of phonics application.

The findings in the present study are supported by Tovey's research (1980) which found that children could use sound/symbol relationships (commonly called phonics skills) even when they couldn't define the terms involved. Also, children were able to learn phonics relationships without first learning phonics terms.

Two limitations inherent in the study must be identified. They are: (1) The procedure for student selection was not as powerful as it might have been had other performance variables such as teacher rating and current reading level been used in conjunction with the California Achievement Test scores;

(2) The present study made use of two recently developed instruments lacking reliability and validity. However, reliability coefficients were established during the research and both instruments were judge to have more than adequate face validity for the terms included.

Limitations notwithstanding, the authors feel that when teaching reading to students, the critical emphasis needs to be on knowledge of phonics usage, instead of memorization of phonics terms. Phonics skills can be learned as isolated sub-skills, but must be immediately practiced in actual reading. Teachers can best assist in the development of successful readers by providing students with large amounts of interesting reading material and encouragement to read.

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